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10/501,389	10/25/2004	Nicolas Dubois	P1902US	3109

8968 7590 02/12/2008	EXAMINER	
DRINKER BIDDLE & REATH LLP		
ATTN: PATENT DOCKET DEPT.	THOMPSON, JR, OTIS L	
191 N. WACKER DRIVE, SUITE 3700	ART UNIT	PAPER NUMBER
CHICAGO, IL 60606	4183	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>14 July 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-5,9-18,20 and 22-31</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-5,9-18,20 and 22-31</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☒ All   b)☐ Some * c)☐ None of:

   1.☒ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date <u>10/25/2004</u>.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2.   Claims 1-5, 9-18, 20, and 22-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3.   Claims 1 and 14 disclose "interconnected routers each including a routing unit". This phrase indicates that there is more than one "routing unit". Therefore, it is unclear to which of these multiple "routing units" the phrase "the routing unit" refers. The following change is suggested: change the phrase "the routing unit" to "each routing unit". The dependent claims incorporate the limitations of the independent claims.

4.   Claims 1 and 14 also disclose the phrases "said router" and "the router". The claims, however, previously refer to "interconnected routers". This phrase indicates that there is more than one "router". Therefore, it is unclear to which of these multiple "routers" the phrases "said router" or "the router" refer. The following change is suggested: change the phrases "said router" and "the router" to "each router". The dependent claims incorporate the limitations of the independent claims.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 5, 9-11, 13-17, 20, 22-24, 26, and 28-30 are rejected under 35

U.S.C. 102(b) as being anticipated by admitted prior art Murthy et al. (US 5,610,905).

7. **Regarding claims 1, 14, and 30,** Murthy et al. discloses a bridge with a port

monitoring feature (Figure 1). The invention applies to either a bridge or a router

(Column 1, lines 9-11). Murthy et al. further discloses that packets are selected for

monitoring (**corresponds to selecting packets**) by a supervisory access terminal 12

(**control unit-claim 1, means for selecting-claim 14**) which is coupled to the bridge or

router. Using the terminal, the network manager is able to define the type of traffic to

be copied to the monitoring port (**collection module inside router**) (Column 2, lines 46-

53) to which a monitoring device (**recording medium and unit to which content of**

selected packets is recorded) is connected (Figure 1, label 9). As shown in figure 1, ports

0-5 are **external ports (external ports)** between which packets are transmitted, and the

supervisory access terminal is connected via port SUPV 11 (**internal port connected to**

the control unit).

Murthy et al. discloses CFRs (Custom Filtering Rules) and templates for filtering

out specific types of packets (Column 8, lines 56-58) (**corresponds to selecting packets-**

claim 1). CFRs may be applied to monitoring port 10 (Figure 1) (Column 22, lines 1-3).

8. **Regarding claims 2 and 15,** Murthy et al. discloses that a monitoring device

(recording unit) such as Sniffer^{TM} or LANalyzer^{TM} is connected to the network medium,

such as coaxial cable (**remote from said router**) (Column 1, lines 35-40). The monitoring port sends packet content to the monitoring device for analysis (Column 18, lines 24-34).

9.   **Regarding claims 3, 16, and 17,** Murthy et al. discloses that based on commands issued from the supervisory access terminal (**corresponds to applicants' formatting means-claims 16 and 17**) numerous aspects of port monitoring may be enabled (Column 19, lines 39-41).

Murthy et al. discloses that when monitoring of incoming packets is required, the Forwarding Table 80 (Figure 12) and the Broadcast/Multicast Table 81 (Figure 13) are modified. To enable monitoring of incoming packets on <monitored-port-number> (**address data corresponding to the recording unit**), each entry in the Forwarding Table 80 where RPORT 85 is equal to <monitored-port-number> is modified. For each such entry, the XMASK bit corresponding to <monitoring-port-number> is set (Column 20, lines 2-11). A similar modification must be made to the Broadcast/Multicast Table 81. For the XMASK entry 55 where RPORT 85 is equal to <monitored-port-number> the XMASK bit corresponding to <monitoring-port-number> is set (Column 20, lines 16-20). The same technique is used when monitoring forwarded packets (Column 20, lines 33-39) (**corresponds to address formatting method-claim 3**).

To monitor generated packets, only the Management Table 82 (Figure 14) has to be modified. Each XMASK entry 55 in the Management Table 82 is modified so that the bit corresponding to <monitored-port-number> is ORed with the bit corresponding to

<monitoring-port-number> (Column 21, lines 7-13) (**corresponds to address formatting method-claim 3**).

To monitor port pairs, the XMASK entry 55 in the Forwarding Table 80 designated by RPORT=<source-monitored-port number> and XPORT=<destination-monitored-port-number> is modified by setting the XMASK bit corresponding to <monitoring-port-number> (Column 21, lines 29-36) (**corresponds to address formatting method-claim 3**).

10.   **Regarding claims 5 and 20**, Murthy et al. discloses that packets are selected for monitoring by a supervisory access terminal which is attached to the router. Using the terminal, the network manager is able to define the type of traffic to be copied to the monitoring port (**collection module**) (Column 2, lines 46-53). The supervisory access terminal performs said defining by using a simple command-line language (**programming codes**) (Column 18, lines 43-45). Murthy et al. further discloses that alternately, these supervisory functions are carried out from any network-attached (**remotely programmable via the communication link or network**) terminal using well-known protocols (Column 2, lines 48-49).

11.   **Regarding claims 9 and 22**, Murthy et al. discloses that a monitoring device is able to provide analysis of the monitored packets. Examples of monitoring devices are Sniffer™ and LANalyzer™ (**recording medium-claim 22**). These devices analyze (**reading and means for reading-claims 9 and 22**) packet traffic on a network and provide various diagnostic information enabling the network manager to locate problems, evaluate

performance, and determine appropriate adjustments to network parameters (Column 18, lines 24-34).

12.   **Regarding claims 10 and 23,** Murthy et al. discloses that CFRs (Custom Filtering Rules) (reading **filters and means for selecting recorded contents of packets thereby**) may be applied to the monitoring port (Column 22, line 1) to which the monitoring device is connected in order to filter selected packets based on their contents (Column 14, lines 34-37).

13.   **Regarding claims 11 and 24,** Murthy et al. discloses that in port monitoring at the monitoring device, packets are not actually copied to monitoring ports, but Packet Descriptors are copied (Column 18, lines 34-43). A Packet Descriptor consists of 5 parts, packet pointer, flags, state, length, and XMASK_Pointer (Figure 8). The packet pointer (**corresponds to applicants' coordinates of a selected packet**) points to the actual packet held in a Packet Buffer in the Packet Buffer Pool (Column 11, lines 5-8). The XMASK-Pointer (**corresponds to applicants' coordinates of a selected packet**) points to an XMASK (bit vector) indicating the destination port or ports (if any) to which the packet is to be transmitted (Column 11, lines 21-24).

14.   **Regarding claims 13 and 26,** Murthy et al. discloses that in port monitoring at the monitoring device, packets are not actually copied to monitoring ports, but Packet Descriptors are copied (Column 18, lines 34-43). A Packet Descriptor consists of 5 parts, packet pointer, flags, state, length, and XMASK-Pointer (Figure 8). The XMASK-Pointer

points to an XMASK (bit vector) indicating the destination port or ports (if any) to which the packet is to be transmitted (Column 11, lines 21-24).

15.   Regarding claim 28, Murthy et al. discloses that because CFRs (Custom Filtering Rules) control packet transmission based on packet contents, CFRs when specified will have a dynamic effect on packet forwarding. Thus CFRs must be evaluated for every packet forwarded between ports and specific addresses for which CFRs are currently defined (Column 14, lines 34-42). The dynamic effect on packet forwarding inherently means that tables such as those disclosed in column 14 lines 44-50, will have to be updated based on the CFRs in order to **determine paths intended to be respectively assigned to packets transferred by the routing unit of the router**.

16.   **Regarding claim 29**, Murthy et al. discloses a bridge with a port monitoring feature (Figure 1). The invention applies to either a bridge or a router (Column 1, lines 9-11). Murthy et al. further discloses that packets are selected for monitoring (**corresponds to selecting packets**) by a supervisory access terminal 12 (**control unit**) which is coupled to the bridge or router. Using the terminal, the network manager is able to define the type of traffic to be copied to the monitoring port (**collection module inside router**) (Column 2, lines 46-53) to which a monitoring device is connected. As shown in figure 1, ports 0-5 are external ports between which packets are transmitted, and the supervisory access terminal is connected via port SUPV 11 (**internal port connected to the control unit**).

Murthy et al. discloses CFRs (Custom Filtering Rules) and templates for filtering out specific types of packets (Column 8, lines 56-58) (corresponds to selecting packets). CFRs may be applied to monitoring port 10 (Figure 1) (Column 22, lines 1-3).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. Claims 12 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art Murthy et al. (US 5,610,905) as applied to claims 11 and 24 respectively above, and further in view of Goetz et al. (US 5,928,330).

19. Murthy et al. discloses the claimed invention above but fails to specifically disclose that the recorded coordinates of a selected packet comprise a timestamp of the collection of said selected packet.

However, Goetz et al. discloses a packet descriptor 420 in figure 4c. Each packet descriptor 420 includes a time stamp field 422. The purpose of the time stamp field is to indicate a start time for the packet to which the packet descriptor corresponds (Column 7, lines 55-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to incorporate the time stamp field of the

packet descriptor of Goetz et al. into the packet descriptor of Murthy et al. in order to indicate a start time for the packet to which the packet descriptor corresponds.

Claim Rejections - 35 USC § 103

20.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

21.   Claim 27 and 31 rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art Murthy et al. (US 5,610,905) as applied to claims 14 and 30 respectively above, and further in view of Datta et al. (US 2001/0047409 A1).

22.   Murthy et al. discloses the claimed invention above but fails to specifically disclose **a unit for simulating the operation of the communication network by using the recorded contents of selected packets.**

However, Datta et al. discloses an apparatus for network capacity evaluation and planning which performs the process shown in figure 6. At step 61, a measure of network volume for network links is computed. At step 62, network capacity, utilization, and balance are evaluated based on the network's current configuration and data volume. At step 63, a scenario is defined with an alternate configuration. At step 64, the data collected in steps 61 and 62 is evaluated for the alternate configuration. At step 65 additional scenarios are optionally performed. At steps 66 and 67, configurations are compared and selected and the desired configuration is created. The

purpose of this method is to simulate all measurements in a network in order to provide assistance in defining a network so that a determination can be made as to whether one configuration is superior to another (Column 7, lines 34-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to incorporate the teachings of Datta et al. into Murthy et al. in order to simulate all measurements in a network in order to provide assistance in defining a network so that a determination can be made as to whether one configuration is superior to another.

Allowable Subject Matter

23.   Claims 4 and 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OTIS L. THOMPSON, JR whose telephone number is (571)270-1953. The examiner can normally be reached on Monday to Thursday 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571)272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4183

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Otis L Thompson, Jr./
Examiner, Art Unit 4183

January 29, 2008

/Len   Tran/

Supervisory Patent Examiner, Art Unit 4183